

## **Annual Standards Report**

### **U.S. Nuclear Regulatory Commission Implementation of P.L. 104-113 and OMB Circular A-119 October 1, 1998 - September 30, 1999**

The Nuclear Regulatory Commission (NRC) has been an active participant in the development and use of consensus standards since its establishment in 1975. The Commission's Strategic Assessment and Rebaselining Initiative in 1996 further increased NRC's focus on the use of standards. For nuclear reactor and nuclear materials safety, the strategy is to increase the involvement of licensees and others in the NRC regulatory process consistent with Public Law 104-113, "National Technology Transfer and Advancement Act of 1995" (Pub. L. 104-113). To do this, NRC will encourage industry to develop codes, standards, and guides that NRC can endorse and the industry can carry out.

In FY 1999, NRC took several actions to further promote the NRC process for implementing Pub. L. 104-113 and OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities." The NRC staff used information gained from the stakeholder meeting it held in Chicago in September 1998 to prepare a recommendation<sup>1</sup> to the Commission to develop guidance for staff in the development and use of consensus standards. The Commission supported the staff recommendation.<sup>2</sup> In May 1999, the NRC held a follow-up to the Chicago meeting to focus on communications with standards developing organizations (SDOs). This meeting demonstrated the value of getting together to understand the current needs, priorities, and constraints of each organization. Based on the success of this meeting, future meetings will be held periodically. The next meeting is scheduled for January 2000.

During the period for this annual report, the NRC staff prepared a management directive<sup>3</sup> to provide internal direction for staff functions to support the NRC standards strategy. The management directive defines NRC organizational responsibilities for standards activities and provides direction for staff participation in the development and use of consensus standards. Specifically, the management directive provides direction for identifying and prioritizing needed new and revised technical standards, selecting and nominating staff as authorized agency representatives on SDO committees, and coordinating standards activities with SDOs and other stakeholders. It provides direction for identifying and prioritizing standards for timely endorsement, annual reporting, exceptions to using a consensus standard, and monitoring and assessing the NRC standards program. The management directive requires periodic training of staff involved with standards activities to provide updates on Federal requirements for standards development and to discuss lessons learned.

The NRC response to the reporting provisions of OMB Circular A-119 is as follows.

- 1) Identification of all instances when the agency used government-unique standards in lieu

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<sup>1</sup>SECY-99-029, "NRC Participation in the Development and Use of Consensus Standards," January 28, 1999.

<sup>2</sup>Staff Requirements, SECY-99-029, February 17, 1999.

<sup>3</sup>Management Directive 6.5, "NRC Participation in the Development and Use of Consensus Standards," issued November 1999.

of voluntary consensus standards (for each instance include agency rationale for such use, as well as the specific government-unique standard used).

No government-unique standards were used by NRC in lieu of existing voluntary consensus standards.

- 2) The number of voluntary standards the agency has used since October 1, 1998, based on the procedures set forth in sections 11 and 12 of the Circular.

During this reporting period, seven consensus standards were “incorporated by reference” into NRC regulations. Six ASME standards were incorporated by reference into 10 CFR 50.55a, “Codes and standards” (see Table 1 for a list of the standards). During proposed rulemaking, the proposed uses of the consensus standards were identified, and in some instances NRC defined exceptions or supplemental requirements. The public comment period provided the opportunity for stakeholders to comment, which resulted in a revision to some of the NRC defined exceptions or supplemental requirements. In all instances, the six consensus standards provided the primary basis for the amended NRC regulation. In addition, one IEEE standard was incorporated by reference into 10 CFR 50.55a(h), “Protection systems” (see Table 1).

The NRC also endorsed 30 standards in three final regulatory guides<sup>4</sup> and eight standards in one final NUREG<sup>5</sup> (see Table 1 for identification of these standards with the specific method of endorsement).

Final direction<sup>6</sup> to address rulemaking (section 11 of the Circular) and procurement (section 12) activities was developed during this reporting period. Proposed rulemakings that have incorporated previous interim guidance to implement section 11 procedures have not completed final rulemaking.

- 3) Identification of voluntary consensus standards that have been substituted for government-unique standards as a result of an agency review under section 15(b)(7) of the Circular.

Generic Letter 90-05, “Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping,” December 1994, provides guidance that will be considered by the NRC staff in evaluating relief requests submitted by licensees for temporary non-code repairs of Code Class 1, 2, and 3 piping. This guidance has been supplemented by ASME Section XI Code Case N-513, “Evaluation Criteria for Temporary Acceptance of Flaws in Class 3 Piping,” and ASME Code Case N-523-1, “Mechanical Clamping Devices for Class 2 and 3 Piping,” which have been incorporated by reference

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<sup>4</sup>NRC Regulatory Guides provide methods acceptable to the NRC staff for meeting NRC regulations.

<sup>5</sup>NUREG-1556, which provides consolidated guidance for material licensees.

<sup>6</sup>See Footnote 3.

into 10 CFR 50.55a. Guidance in Code Cases N-513 and N-523-1 may be substituted for applicable related guidance in Generic Letter 90-05.

- 4) The number of voluntary consensus standards bodies in which there is agency participation, as well as the number of agency employees participating.

During FY 1999, 141 NRC staff participated on 18 SDOs on a total of 267 standards writing, consensus, and board-level committees.

- 5) An evaluation of the effectiveness of Circular A-119 policy and recommendations for any changes.

The policy guidelines provided in OMB Circular A-119 for participating in voluntary consensus standards bodies and using voluntary consensus standards are generally consistent with longstanding NRC practices. The staff believes that these guidelines provide appropriate direction and encouragement for Federal agencies to develop internal agency-wide guidelines to implement Pub. L. 104-113 and OMB Circular A-119. These guidelines also provide sufficient and reasonable flexibility for each agency to make an independent case-by-case determination as to the usability of a particular standard within that agency's scope and responsibility.

**Table 1**

**Standards Endorsed by NRC  
October 1, 1998 - September 30, 1999**

<b>SDO<sup>1</sup></b>	<b>Standard Identifier</b>	<b>Year</b>	<b>Title</b>	<b>Method of Endorsement<sup>2</sup></b>
ASME	B&PV Code Section III	1992, 1995 Editions; 1989 - 1996 yearly addenda	Rule for Construction of Nuclear Power Plant Components	10 CFR 50.55a
ASME	B&PV Code Section XI	1992, 1995 Editions; 1989 - 1996 yearly addenda	Rules for Inservice Inspection of Nuclear Power Plant Components	10 CFR 50.55a
ASME	O&M Code	1995 Edition with 1996 Addenda	Operation and Maintenance of Nuclear Power Plants	10 CFR 50.55a
ASME	Code Case N-513	1996	Evaluation Criteria for Temporary Acceptance of Flaws in Class 3 Piping	10 CFR 50.55a
ASME	Code Case N-523-1	1996	Mechanical Clamping Devices for Class 2 and 3 Piping	10 CFR 50.55a
ASME	Code Case OMN-1	1996	Alternative Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light-Water-Reactor Power Plants	10 CFR 50.55a
ASME	N60-5	1994	Material for Core Support Structures (Section III, Division 1)	R.G. 1.85
ASME	Code Case N-62-7	1994	Internal and External Valve Items, Class 1, 2, and 3 (Section III, Division 1)	R.G. 1.84
ASME	Code Case N71-16	1993	Additional Materials for Subsection NF, Class 1, 2, 3 and MC Component Supports Fabricated by Welding (Section III, Division 1)	R.G. 1.85

<b>SDO<sup>1</sup></b>	<b>Standard Identifier</b>	<b>Year</b>	<b>Title</b>	<b>Method of Endorsement<sup>2</sup></b>
ASME	Code Case N-122-2	1994	Procedure for Evaluation of the Design of Rectangular Cross Section Attachments on Class 1 Piping (Section III, Division 1)	R.G. 1.84
ASME	Code Case N249-13	1994	Additional Material for Subsection NF, Classes 1, 2, 3 and MC Component Supports Fabricated Without Welding (Section III, Division 1)	R.G. 1.85
ASME	Code Case N-318-5	1994	Procedure for Evaluation of the Design of Rectangular Cross-Section Attachments on Class 2 or 3 Piping (Section III, Division 1)	R.G. 1.84
ASME	Code Case N-389-1	1993	Alternative Rules for Repairs, Replacements, or Modifications (Section XI, Division 1)	R.G. 1.147
ASME	Code Case N-392-2	1992	Procedure for Evaluation of the Design of Hollow Circular Cross-Section Welded Attachments on Classes 2 and 3 Piping (Section III, Division 1)	R.G. 1.84
ASME	Code Case N-408-3	1993	Alternative Rules for Examination of Class 2 Piping (Section XI, Division 1)	R.G. 1.147
ASME	Code Case N-409-3	1993	Procedure and Personnel Qualification Requirements for Ultrasonic Detection and Sizing of Flaws in Piping Welds (Section XI, Division 1)	R.G. 1.147
ASME	Code Case N-416-1	1994	Alternative Pressure Test Requirements for Welded Repairs or Installation of Replacement Items by Welding, Class 1, 2, and 3 (Section XI, Division 1)	R.G. 1.147
ASME	Code Case N-441-1	1992	Use of 20Cr-18Ni-6Mo (Alloy UNS S31254) Fittings, Class 2 and 3 Construction (Section III, Division 1)	R.G. 1.85
ASME	Code Case N-474-2	1993	Design Stress Intensities and Yield Strength Values for UNS N06690 With a Minimum Specified Yield Strength of 35 ksi, Class 1 Components (Section III, Division 1)	R.G. 1.85
ASME	Code Case N-492-1	1994	Grade 9 Titanium Alloy, Class 1, 2, and 3 (Section III, Division 1)	R.G. 1.85
ASME	Code Case N-497-1	1993	Use of Fe-Ni-Cr-Mo-N (CN-3MN) Cast Materials, Class 2 and 3 Construction (Section III, Division 1)	R.G. 1.85

<b>SDO<sup>1</sup></b>	<b>Standard Identifier</b>	<b>Year</b>	<b>Title</b>	<b>Method of Endorsement<sup>2</sup></b>
ASME	N-505	1992	Alternative Rules for the Examination of Butt Welds Used as Closure Welds for Electrical Penetration Assemblies in Containment Structures (Section III, Division 1)	R.G. 1.84
ASME	N-509	1992	Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments (Section XI, Division 1)	R.G. 1.147
ASME	N-510	1993	Borated Stainless Steel for Class CS Core Support Structures and Class 1 Components (Section III, Division 1)	R.G. 1.85
ASME	N-511	1993	Design Temperature for Atmospheric and 0 - 15 PSI Storage Tanks (Section III, Division 1)	R.G. 1.84
ASME	N-512	1993	Assessment of Reactor Vessels With Low Upper Shelf Charpy Impact Energy Levels	R.G. 1.147
ASME	N-514	1993	Low Temperature Overpressure Protection (Section XI, Division 1)	R.G. 1.147
ASME	N-515	1993	Class 1 Mechanical Joint Pressure Test (Section XI, Division 1)	R.G. 1.147
ASME	N-516	1993	Underwater Welding (Section XI, Division 1)	R.G. 1.147
ASME	N-520	1993	Alternative Rules for Renewal of N-Type Certificates for Plants Not in Active Construction (Section III, Division 1)	R.G. 1.84
ASME	N-521	1993	Alternative Rules for Deferral of Inspections of Nozzle-to-Vessel Welds, Inside Radius Sections, and Nozzle-to-Safe End Welds of a Pressurized Water Reactor (PWR) Vessel (Section XI, Division 1)	R.G. 1.147
ASME	N-522	1993	Pressure Testing of Containment Penetration Piping (Section XI, Division 1)	R.G. 1.147
ASME	N-524	1993	Alternative Examination Requirements for Longitudinal Welds in Class 1 and 2 Piping (Section XI, Division 1)	R.G. 1.147
ASME	N-525	1993	Design Stress Intensities and Yield Strength Values for UNS N06690 with a Minimum Specified Yield Strength of 30 ksi, Class 1 Components (Section III, Division 1)	R.G. 1.85

<b>SDO<sup>1</sup></b>	<b>Standard Identifier</b>	<b>Year</b>	<b>Title</b>	<b>Method of Endorsement<sup>2</sup></b>
ASME	N-537	1995	Location of Ultrasonic Depth-Sizing Flaws (Section XI, Division 1)	R.G. 1.147
ASME	N-541	1995	Alternative Requirements for Performance Demonstration in Accordance with Appendix VIII, Supplements 4 and 6 (Section XI, Division 1)	R.G. 1.147
ANSI	N13.1	1969	Document to Sampling Airborne Radioactive Materials in Nuclear Facilities	NUREG-1566
ANSI	N13.30	1996	Performance Criteria for Radiobioassay	NUREG-1556
ANSI	N42.18	1991	Specification and Performance of On-site Instrumentation for Continuously Monitoring Radioactive Effluents	NUREG-1556
ANSI	N322	1997	Inspection and Test Specifications for Direct and Indirect Reading Quartz Fiber Pocket Dosimeters	NUREG-1556
ANSI	N322A	1997	Radiation Protection Instrumentation Test and Calibration, Portable Survey Instruments	NUREG-1556
ANSI	N433.1	1997	Safe Design and Use of Self-Contained, Dry Source Storage Gamma Irradiators (Category I)	NUREG-1556
IEEE	603	1991	Criteria for Safety Systems for Nuclear Power Generating Stations	10 CFR 50.55a(h)
NCRP	Report No. 49	1976	Structural Shielding Design and Evaluation for Medical Use of X Rays and Gamma Rays of Energies Up to 10 MeV	NUREG-1556
IAEA	Safety Series 1	1973	Radionuclides Classified According to Relative Toxicity (Excerpted from IAEA Safety Standard "Safe Handling of Radionuclides")	NUREG-1556

1. ASME: American Society of Mechanical Engineers  
ANSI: American National Standards Institute  
IAEA: International Atomic Energy Agency  
NCRP: National Council for Radiation Protection and Measurements

2. 10 CFR 50.55a, "Codes and standards," September 1999  
10 CFR 50.55a(h), "Protection systems," January 1999  
R.G. 1.84: Regulatory Guide 1.84, "Design and Fabrication Code Case Acceptability, ASME Section III, Division 1,"  
Revision 31, May 1999  
R.G. 1.85: Regulatory Guide 1.85, "Materials Code Case Acceptability, ASME Section XI, Division 1," Revision 31,  
May 1999  
R.G. 1.147: Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,"  
Revision 12, May 1999  
NUREG-1556:Consolidated Guidance About Materials Licensees (Program-specific guidance in multiple volumes), April  
1999